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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,776	01/17/2007	Bing Guo	23540-09582	6047

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EXAMINER

LE, HOA T

ART UNIT	PAPER NUMBER
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1794

MAIL DATE	DELIVERY MODE
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03/15/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/576,776	Applicant(s) GUO ET AL.	
	Examiner H. (Holly) T. Le	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 1-20 and 29-41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21, 22 and 24-26 is/are rejected.
- 7) ☒ Claim(s) 23, 27 and 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 April 2006 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>04/06; 10/06 & 01/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of claims 21-28 in the reply filed on December 4, 2009 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 21, 22 and 24-26 are rejected under 35 U.S.C. 102(e) as being anticipated by US 7,229,600 to Yadav ("US'600").

Claim 21: Yadav teaches a method of making comprising providing a rare-earth compound (col. 5, lines 15-25), vaporizing the compound (col. 6, lines 52-53); thermally decomposing the vaporized compound (col. 7, lines 13-20); and condensing (i.e. quenching) the decomposed compound to form nanoparticles (col. 34-37). The produced metal oxide nanoparticles include oxides of lanthanides, namely

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Praseodymium and cerium oxide (col. 5, lines 25-35), which oxides are inherently photoluminescent.

Claim 22: Precursor comprising metal nitrates is suggested at col. 5, line 23 and Pr-, and Ce- containing precursors are exemplified at col. 5, lines 25-35). Thus lanthanide nitrate as the precursor compound is envisioned.

Claim 24: is met by the reference because the presence of silicon compound is only optional, but not required by the claim.

Claim 25: is met by the reference because the presence of metal in the precursor compound is only optional, but not required by the claim.

Claim 26: The vaporizing step is conducted by heating (col. 7, lines 13-20), and thermally decomposing step is conducted in a combusting gas stream (col. 6, lines 42-50).

4. Claims 21, 24 and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by US 7,357,910 to Philips et al ("US'910").

Claim 21: US'910 teaches a method of making metal oxide nanoparticles comprising generating a metallic precursor compound; vaporizing the compound, thermally treating the compound to oxidize the vaporized compound, and condensing the oxidized, vaporized compound. See col. 3, lines 4-18 and claim 1. The produced metal oxide nanoparticles include oxides of lanthanides (col. 7, lines 10-17) which oxides are inherently photoluminescent.

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Claims 24 and 25 are considered met by the reference because the presence of silicon compound or metal in the claimed compound is only optional, but not required by the claim.

Allowable Subject Matter

5. Claims 23, 27 and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter: None of the prior art references of record, singly or combined, teaches or suggests a method requiring particular rare earth compound or thermal spray of colloidal solution as required in the claims.

7. Other references are cited as art of interest.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to H. (Holly) T. Le whose telephone number is 571-272-1511. The examiner can normally be reached on 12:30 p.m. to 9:00 p.m. (EST), Mondays to Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/H. (Holly) T. Le/
Primary Examiner, Art Unit 1794

H. (Holly) T. Le
Primary Examiner
Art Unit 1794

March 12, 2010